A CIGAR-CUTTER DEVICE

The present invention relates to a cigar-cutter device and to a method of cutting cigars using such a device.

The technical field of the invention is that of designing and manufacturing devices suitable for cutting cigars of various sizes and diameters prior to smoking them, and in particular to the field of designing and manufacturing cigar cutters comprising scissors.

Various cigar-cutter devices of this type are known in the prior art. Firstly there are devices in which two cutters are united, being crossed and hinged at a pivot that is offset relative to their sharp edges like the two blades of a pair of scissors, and in which the sharp edges of the two blades are slightly curved so as to prevent the cigar from sliding between them during a cutting operation.

Alternatively, devices are also to be found of the type described in US patent No. 5 937 523, comprising two blades that do not cross, i.e. that are hinged to pivot about a pivot at one of their ends, the blades, where appropriate, being pivotally mounted inside a rigid protective housing including an orifice for inserting the portion of a cigar that is to be cut. Said cigar portion is then cut, without the blades having leverage on the cigar, by manually pressing against the dull outer portions of the two blades, the device being held in the palm of the hand.

That type of device presents a certain number of drawbacks. Firstly, with those devices, the cigar is cut on one side only, rather than being cut by the sharp edges of the blades moving towards each other from either side of the circular section of the cigar and the two sharp edges applying pressure in two diametrically-opposite zones. As a result, the cigar is flattened or crushed prior to being cut, and depending on its degree of humidity, and in particular if its humidity is low,

the result of such crushing is that its wrapper leaf flakes off and is torn away.

In addition, it is also very difficult with such cigar-cutter devices to provide and ensure relative movement of the cutting blades towards each other that is symmetrical and simultaneous. It is not possible manually to maintain a constant force on both blades at each point where they make contact with the circumference of the cigar as a function of the resistance opposed by the cigar to the blades. Thus, a blade in contact with a softer point of the surface of the cigar tends to penetrate more easily without that being compensated in any way by a stronger force being applied by the other blade so as to enable the cigar to be cut in a manner that is simultaneous and regular by both blades. This makes cutting more difficult and less accurate.

To remedy those drawbacks, devices of the "guillotine" type has been proposed that present simultaneous movement of at least two blades.

Devices of that type are described in particular in Japanese patent 9-289985 or in French patent No. 2 397 796 A.

Nevertheless, although they ensure the movement of the two blades is simultaneous and synchronized, those devices are mechanically complex and fragile, and they are particularly expensive compared with cigar-cutter devices comprising scissors.

Those "guillotine" type devices generally comprise two blades or cutters that are mutually engaged and movable in translation along slideway connections within a rigid housing that includes an orifice for inserting a cigar. The blades or cutters present sharp edges that are oblique or angular, in particular that are V-shaped, relative to the travel direction of the blades inside the housing, the blades closing the orifice in the housing as they move along the slideways and while they cut the cigar in guillotine manner.

That type of device also presents a certain number of other drawbacks.

Firstly, that type of cigar cutter, like the above-described devices, does not enable the cigar to be cut in a manner that is genuinely regular, simultaneous, and symmetrical, in spite of the mutual engagement between the blades.

It is very difficult to ensure that the two blades slide and engage the cigar in a manner that is genuinely simultaneous when cutting a cigar of diameter smaller than the diameter of the orifice in the housing since it is necessary to hold the cigar in one hand so that it is situated substantially in the middle of the orifice, while simultaneously actuating the device in the other hand so as to drive the two blades and perform cutting. In practice, the user of such devices tends to hold the cigar against one of the edges of the orifice in the housing so as to ensure the cigar bears stably thereagainst, and then actuates the blades. As a result, the cigar is sliced rather than cut, the cigar being engaged by the blades in a manner that is neither simultaneous nor symmetrical, thus leading to harmful shearing and flattening or crushing of the cigar.

In addition, another disadvantage of "guillotine" type devices lies in their very structure which allows pieces of cigar that have become stuck or entrained by the blades to penetrate into the inside of the housing and into the mechanism while a cigar is being cut, which leads, over time, to matter accumulating in the blade-slide mechanism, causing it to jam and making the device unusable.

Thus, the object of the present invention is to provide a cigar-cutter device that is simple in structure, in use, and to maintain, and that overcomes all of the drawbacks inherent to the devices known in the prior art.

In particular, another object of the present invention is to provide a cigar-cutter device that provides cutting that is accurate and uniform around the entire circumference of the cigar regardless of its diameter or of its degree of humidity.

For this purpose, the invention consists of a cigar-cutter device comprising a pair of blades, said blades being superposed, and each blade being movable in pivoting about an axis and including handle and drive means and a sharp edge, said sharp edge presenting an inside face co-operating in a cutting plane with the inside face of the cutting edge of the other blade, said device further comprising means for connecting together said two superposed blades, comprising at least one connection element located at said pivot axis.

According to the present invention, the cigar-cutter device is characterized in that it includes mechanical coupling means for coupling pivoting of the two blades about their said respective pivot axes, said mechanical coupling means comprising at least two toothed portions secured respectively to each of said blades, and co-operating by meshing in such a manner as to enable said blades to move simultaneously and symmetrically about a middle axis, said sharp edges presenting respective leading profiles that are concave and symmetrical to each other about said axis, said profiles preferably being substantially semicircular.

It will be understood that said middle axis is directed by the invention along a diameter of a cigar for cutting that is positioned between said sharp edges.

This cigar-cutter device with blades that can be pivoted makes it possible to have full control over cutting because said mechanical coupling means make it possible in particular to ensure that the blades, and more particularly the sharp edges of said blades, are interdependent in their cutting movements about the cigar.

This has the advantage of ensuring that the sharp edges engage the cigar simultaneously and uniformly by distributing the pressure forces from the edges against the periphery of the cigar in identical and synchronized manner.

The disposition and the shape of the profiles of the cutting edges advantageously ensure that each of the edges performs exactly 50% of the cutting work, with the cigar being pressed by the symmetrical movement of the blades against the cutting edge of each of them and being pinched by the semicircular shape thereof, thereby enabling cutting to engage a maximum number of points around its circumference and as a result preventing any crushing and slicing of the cigar.

In a preferred embodiment, the device of the present invention includes at least one plate including an orifice that is symmetrical about said middle axis and that is preferably circular, being suitable for receiving a said cigar, said plate being secured to the two blades at least via their said pivot axis (or axes), and said plate being disposed against the outside face of one of said blades.

It will be understood that said plate does not cover the handle and drive means of said blades.

The use of such a plate secured to the blades at least via their pivot axis (or axes) makes it possible advantageously firstly to ensure that the movement of said two blades and thus of their sharp edges takes place in a horizontal plane colinear with the cutting planes of the inside surfaces of said blades, which two planes are substantially perpendicular to the longitudinal axis of the cigar for cutting; and secondly to benefit, because of the orifice in said plate, from means for guiding and orienting the cigar for cutting, and also for acting as a gauge for defining a maximum diameter for a cigar that can be cut with the device of the invention.

Also preferably, the device of the invention has two said plates, each having a said orifice, which orifices are preferably circular. Under such circumstances, each plate is placed against the outside face of one of said sharp edges and is secured to the corresponding blade at least via its pivot axis, the orifices in said plates thus being disposed in register with each other.

Such a structure for the device of the invention with two plates placed externally against each of said cutting edges makes it possible to avoid any slack between said blades and said edges in a direction that is longitudinal relative to the pivot axis (or axes) of the blades, and the application of twisting forces on said pivot axis (or axes) during the movements for cutting a cigar. In addition, this makes it possible to ensure that said two blades and their sharp edges move in a horizontal plane that is colinear with the cutting planes of the inside surfaces of said sharp edges in a manner that is substantially perpendicular to the longitudinal axis of the cigar.

When the cigar has a diameter that corresponds exactly to the diameter of said orifice in the plate, the cut around the entire circumference of the cigar is at its most uniform and clean.

In an advantageous embodiment of the cigar-cutter device of the invention, said means for mechanically coupling the blades in pivoting comprise at least two toothed portions secured respectively to each of said blades close to their pivot axis (or axes), each said toothed portion being inscribed in a circular envelope centered on the pivot axis (or axes) of the blades and co-operating by meshing to enable said relative displacement of the sharp edges.

The term "toothed portion inscribed in a circular envelope" is used herein to mean that the tops of the teeth of the various toothed portions are situated on

respective circles centered on the pivot axis of one or both of the blades of the device.

In a first variant embodiment, said two blades have a common said pivot axis, and one of said blades has a said toothed portion that is convex, and the other of said blades has a toothed portion that is concave, with a pitch circle diameter greater than that of said convex toothed portion, and the device includes two gearwheels that are secured to each other and superposed, sharing a common axis of rotation, preferably where appropriate secured to said plate, a first gearwheel meshing with said convex toothed portion and a second gearwheel meshing with said concave toothed portion.

The term "concave toothed portion" should be understood herein as meaning that the tops of the teeth of said portion are situated on a circle centered on the pivot axis of the blades and that the teeth are oriented radially inwards towards said pivot axis, and the term "convex toothed portion" should be understood as meaning that the tops of the teeth of said portion are situated on a second circle, concentric with the circle of said concave toothed portion, and are oriented radially outwards from the pivot axis.

A gear system is thus formed between said two blades of the cigar-cutter device in which the gear ratio naturally depends on the diameters of the various toothed portions and their numbers of teeth, and thus on the spacing between the pivot axis of the two blades and the axis of the intermediate gearwheels.

In another variant embodiment of the invention, said two blades have respective distinct pivot axes, and each blade includes a said toothed portion that is convex meshing directly with the identical toothed portion of the other blade. In this embodiment, it will readily be understood that said convex toothed portions have the same pitch circle diameter equal to the spacing between said two pivot axes of said two blades.

The gear ratio in this embodiment then depends on the diameter of the convex toothed portions, on their numbers of teeth, and on the spacing between the axes of the two blades.

Thus, a major advantage of the cigar-cutter device of the invention lies in the fact that regardless of which embodiment is selected, the use of rotary coupling means comprising toothed portions forming a gear system makes it possible firstly to ensure that said blades and above all said cutting edges move interactively while cutting a cigar, and secondly to ensure that the relative displacement of the blades is simultaneous and symmetrical while cutting with the cutting forces of the sharp edges on the cigar being equally shared, the lever effect between each blade and the cigar also being reduced.

In order to make the gear system between the blades of the device of the invention, the person skilled in the art will preferably select toothed portions having spur teeth, or helical teeth. That is to say the device of the present invention is not restricted to teeth of a single type, and that any type of tooth can be used.

According to another advantageous characteristic of the invention, each blade is fitted at its non-cutting end with means for driving the device, said drive means preferably comprising an orifice suitable for receiving at least one digit and said sharp edge of a said blade being situated between the pivot axis of said blade and its said drive means.

The term "drive means" is used to mean handle means of the device enabling the blades and their respective sharp edges to be driven so as to cut a cigar. These means may be in the form of an orifice or ring of the kind to be found on conventional scissors, as used for sewing, but the invention is not limited to means of this type. For example the means could be in the form of branches presenting ergonomic bearing surfaces, in

particular presenting concave internal curves suitable for receiving the digits for driving the blades.

In addition, this disposition of the blades between the pivot axis (or axes) and the drive means of the blades provides a lever arm that produces the force that needs to be exerted to cut a cigar, thus making it easier to cut.

In a variant embodiment, said handle and drive means may be formed by a dull side edge of a said blade, said dull edge being of thickness that is at least equal to, and that is preferably greater than, the thickness of the device.

Thus, in this variant embodiment, the cigar-cutter device of the invention presents the advantage of being more compact, thus making it easier to keep in a trouser or jacket pocket without any risk of catching the fabric, as can happen with the blades of a pair of scissors.

In an advantageous embodiment, said connection means include resilient connection means between said blades.

Depending on the embodiment selected, the resilient means are preferably a compression spring or a torsion spring mounted at the pivot axis of the blades. These means advantageously seek to hold said blades in an open position when the device is at rest, and they also serve to oppose a force that resists the movement of the blades towards each other while cutting a cigar, thereby improving control over the displacement of the sharp edges and of the forces they apply against the cigar, and as a result improving the uniformity of cutting.

Advantageously, temporary closure means are also provided for preventing the two blades from moving relative to each other while the device is at rest, these means preferably holding said blades in a close-together position.

By way of example, these means may be constituted by a system of hooks mounted on the blade drive means or by any other type of system known to the person skilled in

the art, the purpose being to protect the user or a third party from the sharp edges of the blades when the cigar cutter is not in use.

According to an additional characteristic, the cigar-cutter device of the invention includes abutment guide means serving to limit the relative displacement in rotation of each blade. These guide means preferably comprise at least one slider capable of moving in at least one preferably-circular slideway, said slider being secured to at least one of said blades or to said plate, and said slideway being provided in the other one of said blades and/or, where appropriate, in said plate.

These abutment guide means, associated with the resilient connection means and said plate(s) advantageously serve to ensure fluidity and continuity in the movement of the blades, and thus of the sharp edges, during the cutting of a cigar, and also to protect the sharp edges and the gearing system of the blades by keeping them under the cover of the plate(s) during cutting or when the device is at rest.

Finally, the invention also provides a method of cutting cigars using a cigar-cutter device according to claim 1, in which said two blades are spaced apart and a cigar is inserted between the two blades, preferably inside an orifice provided in one of said plates, and then the blades are moved towards each other by imparting simultaneous and symmetrical relative displacement thereto in order to cut the cigar, preferably by using the drive means.

Other advantages and characteristics of the invention appear on reading the following description of embodiments thereof and on referring to the accompanying drawings, in which:

· Figure 1 is a perspective exploded view of the various component elements of a first embodiment of the device of the present invention;

· Figures 2 and 3 are plan views of a first embodiment of the device of the present invention, respectively in the closed position and in the open position;

· Figures 4 and 5 are plan views of a first embodiment of the device and its mechanism for synchronizing scissors in accordance with the present invention, respectively in the closed position and in the open position;

· Figure 6 is an exploded perspective view of a second embodiment of the device of the present invention;

· Figures 7 and 8 are plan views of a second embodiment of the device of the present invention, respectively in the closed position and in the open position; and

· Figures 9 and 10 are plan views of a second embodiment of the device and of its mechanism for synchronizing scissors in accordance with the present invention, shown respectively in the closed position and in the open position.

With reference to Figure 1, the cigar cutter device constituting the first embodiment of the present invention essentially comprises:

· a pair of scissors comprising a right-hand blade 1 and a left-hand blade 1' that are superposed one on the other;

· two plates 4_1, 4_2;

· a double-toothed gear 6 formed by a first single-tooth gear 6_1 secured to and superposed on a second single-tooth gear 6_2; and

· means for connecting these elements together, preferably a bolt 8_1, 8_2 and two pins 9 and 10 for holding the elements together and moving them.

Each blade 1, 1' comprises an active portion presenting an inside face 1_1, 1_1' in contact with the inside face of the active portion of the other blade, and an outside face 1_2, 1_2' in contact with one of the plates

4_1, 4_2 and also with an actuator portion essentially comprising handle and drive means 3, 3', the two portions being secured to each other.

The active portions of the two blades and the plates 4_1, 4_2 present a shape that can be inscribed in a portion of a disk, preferably one-eighth of a disk, i.e. presenting an angle at the apex lying in the range 40° to 60°, and preferably substantially equal to 45°.

Each active portion presents a thickness that is less than the thickness of the drive means 3, 3', preferably a thickness that is substantially equal to half the thickness of the drive means.

In addition, each active portion is faced over its entire inside face 1_1, 1_1' in a "cutting" plane P, and further comprises firstly two side edges, a first side edge forming a cutting edge 2, 2' and a second edge 2_1, $2'_1$ that is dull and opposite from said sharp edge, and secondly toothed portions 18 and 18' that are respectively convex and concave situated close to holes 11, 11' enabling the blades 1, 1' and the plates 4_1, 4_2 to be connected together by means of the bolts 8_1, 8_2.

The drive means 3, 3' are obtained in conventional manner, preferably, for example, by making an orifice suitable for receiving at least one digit in each of the blades 1, 1', or in a variant they are constituted by the dull side edges 2_1, $2'_1$ of the active portion of each blade.

The two blades co-operate with each other by pivoting about an axis passing through the holes 11, 11' and by the inside faces 1_1, $1'_1$ of the right and left blades 1 and 1' sliding one on the other.

Because of the depth of the surfacing which is substantially equal to half the thickness of the drive means 3, 3', the assembly formed by the two blades 1, 1' presents a total thickness equal to the thickness of the drive means 3, 3' of each blade 1, 1'.

In a first embodiment, the blades 1, 1' are connected together about a common pivot axis YY'. The two blades 1, 1' and their corresponding edges 2, 2' thus move by pivoting about the axis YY' in the cutting plane P.

The pivoting between the two blades takes place about the bolt 8_1, 8_2 whose longitudinal axis is constituted by the pivot axis YY' common to the blades 1, 1'. Perforations 11, 11', 12_1, 12_2 are formed along the axis YY' respectively in the right and left blades 1 and 1' and in the plates 4_1 and 4_2 so as to enable a nut 8_2 to be inserted therein. The screw 8_1 is tightened in the nut 8_2 in such a manner as to leave clearance between the plates and the blades that is sufficient to enable the blades 1, 1' to pivot relative to the plates 4_1, 4_2, while preventing any slack between said blades and said plates longitudinally along the axis YY'.

The cutting edges 2, 2' are symmetrical to each other about a middle axis XX' of the device. Furthermore, they are circularly arcuate in shape, preferably comprising semicircles, each having a leading profile that is concave and chamfered with the chamfer sloping from the inside face 1_1, $1'_1$ towards the outside face 1_2, $1'_2$ of said active portions of said blades 1, 1' in contact with said plates 4_1, 4_2.

These cutting edges 2, 2' are advantageously situated between the pivot axis YY' of the blades 1, 1' and the handle and drive means 3, 3' of said blades.

Such a disposition for the cutting edges 2, 2' provides a sufficient lever arm between the pivot axis YY' of the blades 1, 1' and the drive means 3, 3' to reduce the force that needs to be exerted in order to cut a cigar cleanly and uniformly.

Because of this particular shape of the cutting edges 2, 2' on the blades 1, 1', the risks of bursting or flattening the wrapper leaf of the cigar are greatly reduced or even eliminated because the profile of each of

the blades surrounds and comes into contact with the cigar for cutting at substantially all points of its periphery during the movement of closing the blades in order to perform the cutting. In addition, because the cutting edges cross and overlap during the stage of cutting the cigar, cutting takes place without crushing or tearing the fibers inside the cigar.

With reference to Figure 1, abutment guidance means 10, 15, 15' serve to limit the respective displacements of each of the blades 1, 1' to an angle that is sufficient for cutting a cigar of diameter that is less than or equal to the diameter of apertures 5_1, 5_2 formed through the plates 4_1, 4_2, respectively.

These abutment guidance means preferably comprise a slideway in the form of a substantially circular groove 15, 15' machined in the active portion of each blade 1, 1' close to the drive means 3, 3' and centered on the pivot axis YY' of the blades.

The angle formed by each of these two slideways 15, 15' is substantially equal to half the angle formed by the active portions of the blades 1, 1', i.e. it lies in the range 20° to 30°, and is preferably substantially equal to 22.5°.

A pin 9 mounted tightly in an aperture 13_1, 13_2 formed in each of the two plates 4_1, 4_2 and extending along an axis Y_1, Y'_1 constitutes a slider that slidably co-operates with the slideways 15, 15' and limits the amplitude of the displacement of the blades 1, 1'.

The pin 9 can be secured to the apertures 13_1, 13_2 in the two portions 4_1, 4_2 of the body by means of a force-fit, for example, using a pin having a diameter that is slightly greater than the diameter of the apertures 13_1, 13_2, or by adhesive, or by any other method of connection that is preferably both simple and inexpensive. The pin is preferably formed by a rivet 9 having a spacer 13_3 mounted around its rod and acting as the slider that slides in the slideways 15, 15'.

In a first variant embodiment of the device of the invention (not shown), the slider or pin 9 of the abutment guidance means may be in the form of a respective stud advantageously disposed on the outside face of the active portion of each of the blades 1, 1' close to the drive means 3, 3'. The slideways or grooves 15, 15' are then machined or formed in the plates 4_1, 4_2 to occupy circular arcs having a diameter equal to the diameter of the circle desired by the stud when the blades pivot and centered on the axis YY'.

In a second variant that is likewise not shown, the stud/slider 9 is disposed on the inside face of only one of the blades 1, 1' close to the drive means 3, 3', and the groove/slideway 15, 15' is machined or formed on or in the inside face of the second blade along a circular arc of diameter equal to the diameter of the circle described by the stud 9 when the blades pivot, and centered on the axis YY'.

With reference to Figure 4, the minimum spacing between the two blades 1, 1', i.e. when the drive means 3, 3' of the blades are close together and the scissors are in a "closed" position, is obtained when the left-hand end of the groove 15' of the left-hand blade 1' comes into abutment against the spacer 13_3 of the pin 9, and the right-hand end of the groove 15 of the right-hand blade 1 comes into abutment against the spacer 13_3 of the pin 9.

With reference to Figure 5, the maximum spacing of the two blades 1, 1', i.e. when the drive means 3, 3' are spaced apart and the blades 1, 1' are in a "open" position, is obtained when the right-hand end of the groove 15' of the left-hand blade 1' comes into abutment against the spacer 13_3 of the pin 9 and the left-hand end of the groove 15 of the right-hand blade 1 comes into abutment against the spacer 13_3 of the pin 9.

Beyond these two open or closed characteristic positions, the two blades 1, 1' cannot be made to pivot without damaging the device.

Substantially in their middles, the two plates 4_1, 4_2 have respective, preferably circular apertures 5_1, 5_2 suitable for receiving a cigar that is to be cut.

In a preferred embodiment, each of these apertures 5_1, 5_2 is accurately circular and presents a diameter that is perceptibly greater than the diameter of a large-diameter cigar, being about 22 millimeters (mm) to 25 mm at the most, so as to enable several types of cigar to be cut, and more precisely cigars of different diameters.

As shown in Figures 3 and 5, when the device is in the open position, the sharp edges 2, 2' of each blade 1, 1' form a circle of diameter that is perceptibly greater than or equal to the diameter of the apertures 5_1, 5_2 formed in each of the two plates 4_1, 4_2, and its center coincides therewith, so as to enable a cigar to be inserted for cutting.

With reference to Figures 2 and 4, when the device is in the closed position, the cutting edge 2, 2' of a blade is covered by the inside surface of the active portion of the other blade. The aperture 5_1, 5_2 is then completely closed, preventing the user or a third party being injured while the device is unused and in its closed position.

Furthermore, temporary closure means such as hooks 16, 16' secured to the drive means 3, 3' hold the two blades in the closed position while the device is unused. These hooks are of the same type as is used on surgical scissors or forceps.

The device also includes resilient means, preferably of the type comprising a compression spring 7, mounted between each of the blades on two studs 17, 17' made in the active portions of said blades. Thus, if the operator forgets to lock the two blades together using the hooks 16, 16', the spring automatically pushes the

device into the open position so that the plates 4_1, 4_2 cover the sharp edges 2, 2' of the two blades 1, 1'.

These resilient means also advantageously contribute to cutting effectively and uniformly in that they oppose the forces resisting displacement of the blades 1, 1' during a cutting stage, thus enabling the relative movement of said blades and their sharp edges 2, 2' to be controlled better, thereby improving the uniformity of the cutting movement and of the cut itself.

In this first embodiment, the cigar cutter device of the invention is fitted close to its pivot axis YY' with means for coupling the pivoting of the blades 1, 1'.

With reference to Figures 1, 4, and 5, the right-hand blade 1 has in its active portion close to the hole 11 a portion of a convex toothed wheel 18 centered on the pivot axis YY'. The left-hand blade 1' has a portion of a concave toothed ring 18' likewise centered on the axis of rotation YY'.

More precisely, the tips of the teeth in the toothed portions 18, 18' lie on circular arcs centered on the axis YY', with the portion 18 of a toothed wheel facing away from said axis YY', and the portion of a toothed ring 18' facing towards the axis YY'.

The toothed ring portion 18' is machined in the end of the left-hand blade 1' remote from its drive means 3', close to the hole 11', thus defining a hollow space 19.

A gearwheel 6 connects the toothed wheel portion 18 to the toothed ring portion 18'.

Since the active portions of the blades 1 and 1' are superposed and fitted to each other about the axis YY' by the bolt 8_1, 8_2, the toothed ring and wheel portions 18 and 18' are offset relative to each other longitudinally and transversely relative to said axis YY'.

In order to compensate for these offsets, the double toothed gear 6 comprises a gear of two levels for co-operating with said toothed wheel portion 18 and toothed ring portion 18' and is built up from two gearwheels, a

top gearwheel 6_1 that meshes with the toothed wheel portion 18 and a bottom gearwheel 6_2 that meshes with the toothed ring portion 18' in the hollow space 19.

These two gearwheels 6_1, 6_2 are secured to each other, and they pivot relative to the rigid body about an axis $Y_2Y'_2$ by means of a pin 10 which is mounted in apertures 14_1, 14_2 formed in the two plates 4_1, 4_2.

The numbers of teeth in the toothed wheel portion 18 and in the toothed ring portion 18' depend on the maximum spacing between the two blades 1, 1'.

In a preferred embodiment, the toothed wheel portion 18 has five teeth and the toothed ring portion 18' also has five teeth. The bottom and top gearwheels 6_2 and 6_1 have respectively 14 teeth and ten teeth.

The pitch circle diameter of the toothed wheel portion 18 is about 11 mm and the pitch circle diameter of the toothed ring portion 18' is about 22 mm. The bottom and top gearwheels 6_2 and 6_1 have respective pitch circle diameters of about 8 mm and 4 mm.

In this embodiment, the gear ratio of the assembly is equal to 1.

The gearing formed by the toothed wheel 18, the gearwheels 6_1, 6_2, and the toothed ring 18' preferably have spur teeth but they could have helical teeth or herringbone teeth.

In a second embodiment of the cigar cutter device of the invention as shown in Figures 6 to 10, the blades 1, 1' pivot about two specific and distinct axes $Z_1Z'_1$ and $Z_2Z'_2$, and the means for coupling the blades 1, 1' in pivoting are identical toothed portions 20, 20' situated at the ends of the respective active portions of each of the blades 1, 1', that mesh together directly, without passing via a gearwheel. The other component elements are identical to the first embodiment.

With reference to Figures 6 to 10, the end of the active portion of each blade situated remote from the drive means 3, 3' close to the pivot axis $Z_1Z'_1$, $Z_2Z'_2$

defines a portion of a toothed wheel 20, 20' having as its center the pivot axis $Z_1Z'_1$, $Z_2Z'_2$ of the corresponding blade, and being of radius equal to half the distance "ℓ" between the respective pivot axes $Z_1Z'_1$ and $Z_2Z'_2$ of the two blades 1, 1'.

Since the active portion of each blade 1, 1' is machined and faced to have a thickness equal to half the thickness of the drive means 3, 3', each blade has a shoulder in the form of a disk centered on the pivot axis $Z_1Z'_1$, $Z_2Z'_2$ of the blade and of radius equal to the radius of the portion of a toothed wheel 20, 20'.

The shoulders 21, 21' provided in this way enable the blades 1, 1' to mesh together over a height that is equal to the thickness of the drive means 3, 3'.

The blades 1, 1' pivot about two pins 22_1, 22_2 mounted as tight-fits in two apertures 23_1, 23_2 formed through the two plates 4_1, 4_2 in the same manner as in the first embodiment. These pins 22_1, 22_2 are preferably two rivets whose rods are provided with spacers 24_1, 24_2 that become inserted in holes made in each of the blades 1, 1' through the shoulders 21, 21' and enabling the blades to pivot by the spacers sliding about the rods of the rivets.

The gearing system formed in this way preferably has spur teeth, but could also have helical teeth or herringbone teeth.

When the device of the present invention is in use, the user inserts two digits in the drive means 3, 3', e.g. a thumb in one of the drive means and the forefinger and middle finger in the other drive means.

If the blades 1, 1' are locked in the closed position, the user unlocks them by separating the temporary closure means 16, 16' and opens them fully, assisted by the action of the resilient means 7.

The orifice 5_1, 5_2 is then free and the user can insert the cigar for cutting therein and can hold the cigar in the other hand.

The blades 1, 1' are then moved towards each other by causing each of the blades 1, 1' to pivot about its respective pivot axis YY', Z_1Z_1', Z_2Z_2' so as to cut the cigar.

While cutting is taking place, the force exerted on one blade is transmitted to the other blade through the gearing system 6, 18, 18', 20, 20'. This reduces the forces at the means for coupling the blades to pivot, thereby limiting the force that needs to be delivered to perform cutting and enabling the blades and their sharp edges to move relative to each other around the cigar in a manner that is simultaneous and symmetrical about a middle axis XX' of the device, as shown in Figures 2 to 5 and 6 to 10.

As a result of such simultaneous and symmetrical displacement of the sharp edges 2 and 2', the cigar is initially clamped by the edges, substantially all around its periphery, and is then cut simultaneously at all points around its circumference. This avoids any crushing or tearing of the wrapper leaf of the cigar and provides a cut that is clean and uniform insofar as the edges 2, 2' slide during cutting in a common cutting plane P and overlie each other, thereby each performing a cutting action over more than half of the cross-section of the cigar.

Once the cigar has been cut, the user locks the blades 1, 1' in the closed position using the hooks 16, 16'.

If the user forgets to perform this operation, the resilient means 7 push the blades into the open position, so that each sharp edge 2, 2' is covered and protected by the plates 4_1, 4_2.